



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,292	01/18/2000	Neil Kent McDonald	9D-HR-19273-McDonald	9518

7590 06/03/2004

John S. Beulick
Armstrong Teasdale LLP
One Metropolitan Square, Suite 2600
St. Louis, MO 63102

EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,292

Applicant(s)

MCDONALD ET AL.

Examiner

Tho v Duong

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A receipt of applicant's amendment with an RCE filed 3/8/2004 is acknowledged.

Claims 1-4 and 6-21 are now pending. Claims 1-4 and 6-21 are rejected as follows:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6-13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.A. Heuer (US 3,173,479) in view of A. E. Brickman (US 2,620,170). Heuer discloses (figures 2-5 and column 3, lines 11-16) an apparatus of a refrigerator condenser comprising a spiraled tube and fin member (10) forming by bending the flat tube and fin member into a spiral including first and second ends (top and bottom) and a longitudinal asymmetrically rounded passageway (11'); the tube and fin member comprising an inner edge (13), an outer edge (12) and a longitudinal axis; the inner edge (13) and outer edge (12) substantially parallel to the longitudinal axis wherein the outer edge is located farther than the inner edge from the longitudinal axis; the tube and fin member (10) comprises two wraps (12,13); a baffle (26) mounted at the bottom end of the tube and fin member (10) to prevent air from entering the passage through the bottom end; a fan blade (31) is mounted so that the fan blade is located at the top end of the passageway to draw air into the passageway (11). Heuer further discloses (figure 3) that the spiraled tube and fin member (10) has a plurality of U-shaped segment (bent portions). Heuer further discloses that the tube member and the fin member are formed from a

Art Unit: 3743

heat transfer panel (1). Heuer does not disclose that the heat transfer panel (1) comprises of wire fins coupled to a tube. Brickman discloses (figure 3 and column 1, lines 13-45) a heat transfer panel unit for forming a condenser in a refrigerating system wherein the heat transfer panel unit comprising a plurality of wire fins (12) coupled to a plurality of tubes (2) having U-shaped sections (4) defining a continuous layered heat transfer surface for the purpose of providing a heat exchanger unit having good heat transfer characteristics and a relatively low cost due to the reduced of material being used and the increase of heat transfer area of fins. Since Heuer and Brickman are both from the same field of endeavor and/or analogous art, the purpose disclosed by Brickman would have been recognized in the pertinent art of Heuer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ in Heuer's condenser a wire and tube heat transfer unit for the purpose of providing a heat exchanger unit having good heat characteristic and a relatively low cost. The combination device of Heuer and Brickman is considered to read on the claimed apparatus. Therefore, it is believed that the combination device of Heuer and Brickman is capable of being formed or used from the same method as claimed. Specifically to claim 3, while Heuer discloses (figure 3) a step of bending the U-shaped segment about an axis (11'), which is perpendicular to a plurality of U-shaped section, reference to Brickman discloses that the axis that is perpendicular to the a plurality of U-shaped sections (4), is also a longitudinal direction of the wires (12). Therefore, the combination device of Heuer and Brickman would result in a step of bending the plurality of U-shaped segments about the axis parallel to the wires.

Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.A. Heuer and Brickman in view of Simmons et al. (US 3,865,517). Heuer and Brickman substantially

Art Unit: 3743

disclose all of applicant's claimed invention as discussed above except for the limitation that the fan blade assembly is external to the passage. Heuer further does not disclose that the fan blade assembly being external to a passage formed by the condenser. Simmons discloses (figure 2 and column 3, lines 1-13) a refrigeration condenser unit that has a fan blade assembly (23) mounted at an end of a condenser coil (3) and being external to an air passageway formed within the condenser coil to maximize the flow of air as the fan rotates and to avoid any impedance of airflow to the fan since the motor of the fan is not located within the passageway and on the discharge side of the fan. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Simmons's teaching in the combination device of Heuer and Brickman to maximize the flow of air as the fan rotates and to avoid any impedance of airflow to the fan since the motor of the fan is not located within the air passageway and on the discharged side of the fan.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

C. H. Wurtz (US 3,159,213) discloses a refrigerating apparatus with wire fins and tube.

H. P. Harle (US 3,388,562) discloses a refrigeration system including coated condenser with wire fins.

R. G. Beauvais (US 3,460,225) discloses a method of forming a wire condenser mat welder.

Art Unit: 3743

Smith (US 4,321,803) discloses a multiple air passage condenser.

Shin (US 5,778,973) discloses a cooling apparatus having spirally wound conductive pipe.

Hanson et al. (US 4,047,393) discloses a refrigerator forced air condenser filter.

R. Smith (US 3,162,023) discloses a spiral condenser in a refrigerating apparatus.

J. O. Carrey (US 1,691,180) discloses a condenser for refrigerating apparatus.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

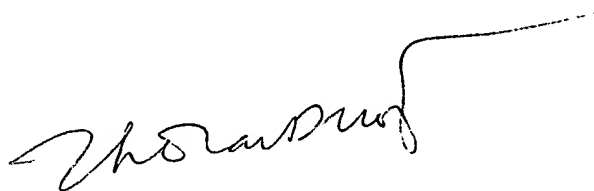
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

May 28, 2004



Tho Duong

Patent Examiner.